======= WPI =======

TI - Internal combustion engine with turbo supercharger for supercharging of intake - has control unit which controls variable valve timing unit to control opening of intake value when value measured by rotation detected is lower than predetermined value

AB - J10288056 The engine comprises a variable valve timing unit (11) that varies opening and closing time of an intake valve (5). The variable valve timing unit is controlled by a control unit (12). A turbo supercharger supercharges the exhaust from a turbine (9) to drive a compressor (10). A rotation detector (15) detects the rotating speed.
- The control unit controls the variable valve timing units to open the intake valve when the detected value of the rotation detector is lower than a predetermined value. The piston is then displaced from the top dead centre to the bottom dead centre during the charging stroke.
- ADVANTAGE - Increases energy of exhaust steam. Reduces turbo lag. Enhances output of engine.
- (Dwg.1/7)

PN - JP10288056 A 19981027 DW199902 F02D23/00 006pp
PR - JP19970097644 19970415
PA - (NIJI ) NIPPON JIDOSHA BUHIN SOGO
- (TOYT ) TOYOTA JIDOSHA KK
MC - X22-A03C X22-A03G X22-A20C
DC - Q52 X22
IC - F02B37/00 ;F02D13/02 ;F02D23/00
AN - 1999-018690 [02]

======= PAJ =======

TI - INTERNAL COMBUSTION ENGINE WITH TURBO SUPERCHARGER

AB - PROBLEM TO BE SOLVED: To increase engine output while reducing turbo lag.

- SOLUTION: A time at which an air intake valve 5 opens is changed from during an air intake process to an exhaust process as an engine speed is increased. Because a kinetic energy can be given more to the air intake than to an engine at the suction of air intake, the exhaust gas energy can be increased. As a result, because a force to drive a turbine 9 becomes large, an engine output can be increased while reducing a turbo lag.

PN - JP10288056 A 19981027
PD - 1998-10-27
ABD - 19990129
ABV - 199901
AP - JP19970097644 19970415
PA - NIPPON SOKEN INC;TOYOTA MOTOR CORP
IN - WAKIMOTO TORU;OKI HISASHI
I - F02D23/00 ;F02B37/00 ;F02D13/02